

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) Electronic microwave circuit ~~(1)~~ with comprising GaAs field-effect transistors ~~(15)~~, ~~which are~~ integrated onto a semiconductor substrate (5), for switching electronic high frequency input signals ~~(16)~~ and at least one light source (2) for illuminating the GaAs field-effect transistors ~~(15)~~, ~~characterised in that~~ wherein at least one of the intensity of the light source ~~(2)~~ and/or and the ~~colour~~ color of the light source may be changed during operation.

2. (Currently Amended) Electronic microwave circuit according to claim 1, ~~characterised in that~~ wherein the light source (2) is able to illuminate in different ~~colours~~ colors alternately or simultaneously, ~~particularly in red, yellow, green, white, blue, ultraviolet and infrared.~~

3. (Currently Amended) Electronic microwave circuit according to claim 1 ~~or~~ 2, ~~characterised by~~ comprising a control device (6) which controls or regulates the intensity and/or ~~colour~~ color of the light source (2).

4. (Currently Amended) Electronic microwave circuit according to claim 3, ~~characterised in that~~ wherein the control device (6) controls or regulates the intensity and/or the ~~colour~~ color of the light source (2) dependent upon at least one measurement variable or a combination of measurement variables.

5. (Currently Amended) Electronic microwave circuit according to claim 4, characterised in that wherein the measurement variables are selected from the group consisting of:

[[-]] the polarity of ~~the~~ a signal voltage of ~~the~~ a high frequency signal (16) to be switched, relative to ~~the~~ a control voltage with which the field-effect transistors (15) are controlled,

[[-]] the size of ~~the~~ a signal voltage of ~~the~~ a high frequency signal (16) to be switched, relative to ~~the~~ a control voltage with which the field-effect transistors (15) are controlled,

[[-]] the temperature of the field-effect transistors (15)

[[-]] the size of ~~the~~ a signal voltage of ~~the~~ a high frequency signal (16) to be switched, and

[[-]] the level of ~~the~~ a signal frequency of ~~the~~ a high frequency signal (16) to be switched.

6. (Currently Amended) Electronic microwave circuit according to claim 4 ~~or~~ 5, characterised in that wherein the control device (6) controls or regulates the intensity and/or ~~colour~~ color of the light source (2) in such a manner that the switching times of the field-effect transistors (15) remain constant over ~~the whole~~ an entire range of values of ~~the~~ measurement variables used that occur in operation.

7. (Currently Amended) Electronic microwave circuit according to claim 6, characterised in that wherein the intensity of the light is selected to be just large enough and/or the wavelength of the light ~~colour~~ color is ~~optimised~~ optimized to be, ~~for example~~, as small as possible or as energetic as possible.

8. (Currently Amended) Electronic microwave circuit according to claim 6 ~~or 7~~, characterised in that wherein the switching times of the field-effect transistors (15) are minimised minimized.

9. (Currently Amended) Electronic microwave circuit according to ~~one of the~~ claims claim 4 to 8, characterised in that wherein the control device (6) ~~has~~ comprises a store (7) in which ~~the~~ a optimum intensity and/or ~~colour~~ color of the light source (2) dependent upon the values of the measurement variables used is stored for a plurality of values of the measurement variables, and that wherein the control device (6) sets or controls or regulates the intensity and/or the ~~colour~~ color of the respective light source (2), based on the values stored in the store (6) of the measurement variables used.

10. (Currently Amended) Electronic microwave circuit according to ~~one of the~~ claims claim 1 to 9, characterised by comprising at least one sensor (8) in the region of the respective GaAs field-effect transistor (15) and of the respective semiconductor substrate (5), for detecting the light intensity and/or the temperature.

11. (Currently Amended) Electronic microwave circuit according to ~~one of the~~ claims claim 1 to 10, characterised in that ~~the electronic microwave circuit (1) comprises~~ comprising a damping circuit with damping which can be switched in steps.

12. (Currently Amended) Calibrating device (20) for calibrating the intensity and/or ~~colour~~ color of a light source (2) of an electronic microwave circuit (1), the intensity and/or ~~colour~~ color of said light source being changeable during operation, said microwave circuit ~~having~~ comprising GaAs field-effect transistors (15) illuminable by the light source

(2), with a signal generator (21) for generating high frequency input signals (16) to a calibrating output (29), via which the high frequency input signals (16) are fed to an input (9) of the microwave circuit (1), with a calibrating input (30) via which the high frequency signals altered by the microwave circuit (1) are fed again to the calibrating device (20), with a control unit (22), for controlling the light source (2) and the switching processes of the microwave circuit (1) via a calibrating connection (24), and of the signal generator (21), whereby the control unit (22) evaluates high frequency output signals (17) input via the calibrating input (30) and places the result of the evaluation in a store (7) of the microwave circuit (1).

13. (Currently Amended) Calibrating device according to claim 12, ~~characterised~~ by comprising a control connection (23) for controlling a cooling/heating system (31) for cooling or heating the field-effect transistors (15).

14. (Currently Amended) Method for operating a calibrating device (20) on a microwave circuit (1) according to ~~one of the claims claim 1 to 11~~, having comprising the following method steps:

[[-]] (a) ~~stepwise adjustment and detection of~~ adjusting and detecting the influencing variables comprising [[:]]

[[-]] intensity and/or

[[-]] ~~colour~~ color

of the light source (2) of the microwave circuit (1) and at least one ~~of the~~ measurement ~~variables~~ variable selected from the group consisting of

[[-]] the polarity of the signal voltage of the high frequency signal (16) to be switched, relative to the control voltage with which the field-effect transistors are controlled,

[[-]] the size of the signal voltage of the high frequency signal (16) to be switched,
relative to the control voltage with which the field-effect transistors are controlled,

[[-]] the temperature of the field-effect transistors,

[[-]] the level of the signal voltage of the high frequency signal (16) to be switched,

and

[[-]] the level of the signal frequency of the high frequency signal (16) to be switched;

[[-]] (b) ~~storage of~~ storing the value combinations or of the value tuples of the
changed and detected values of the influencing variables and of the measurement variables;

[[-]] (c) ~~evaluation of~~ evaluating the value combinations or value tuples; and

[[-]] (d) ~~transfer of~~ transferring the evaluation results to the microwave circuit (1).

15. (Currently Amended) Method according to claim 14, ~~characterised in that the~~
~~evaluation of~~ comprising evaluating the value combinations or value tuples ~~takes place~~ such
that an n-dimensional table is generated from which for each combination of the individual
values of the measured measurement variables, the respective values of optimal light
intensity and/or optimal light ~~colour~~ color can be read out.